We claim:

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- 1. A computer-implemented method operable on a process, the method comprising: analyzing the process against a formula using a predetermined modal logic based on ambient calculus to determine whether the process satisfies the formula; and, outputting whether the process satisfies the formula.
- 2. The method of claim 1, wherein analyzing the process comprises analyzing the process in a recursive manner.
- 3. The method of claim 1, wherein analyzing the process comprises normalizing the process to determine whether the process comprises only a single element.
- 10 4. The method of claim 1, wherein analyzing the process comprises partitioning the process to determine whether each component of the process satisfies the formula.
 - 5. The method of claim 1, wherein analyzing the process comprises determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names.
- 15 6. The method of claim 1, wherein analyzing the process comprises analyzing each sublocation of the process against the formula.

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- 7. The method of claim 1, wherein analyzing the process comprises analyzing a spatial reach of the process against the formula.
- 8. \ A computer-implemented method comprising:

recursively analyzing a process against a formula using a predetermined modal

5 logic based on ambient calculus comprising:

normalizing the process to determine whether the process comprises only a single element;

partitioning the process to determine whether each component of the process satisfies the formula;

determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names;

analyzing each sublocation of the process against the formula; analyzing a spatial reach of the process against the formula; and, outputting whether the process satisfies the formula.

9. A machine-readable medium having instructions stored thereon for execution by a process to perform a method comprising:

inputting a process;

recursively analyzing the process against a formula using a predetermined modal logic based on ambient calculus to determine whether the process satisfies the formula; and,

outputting whether the process satisfies the formula.

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- 10. The medium of claim 9, wherein recursively analyzing the process comprises normalizing the process to determine whether the process comprises only a single element.
- 11. The medium of claim 9, wherein recursively analyzing the process comprises:

 partitioning the process to determine whether each component of the process satisfies the formula; and,

determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names.

- 12. The medium of claim 9, wherein recursively analyzing the process comprises: analyzing each sublocation of the process against the formula; and, analyzing a spatial reach of the process against the formula.
- 13. A machine-readable medium having instructions stored thereon for execution by a process to perform a method comprising:

recursively analyzing a process against a formula using a predetermined modal logic based on ambient calculus comprising:

normalizing the process to determine whether the process comprises only a single element;

partitioning the process to determine whether each component of the process satisfies the formula;

determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names;

analyzing each sublocation of the process against the formula; analyzing a spatial reach of the process against the formula; and, outputting whether the process satisfies the formula.

A computerized system comprising: 14.

5 a processor;

a computer-readable medium;

first data stored on the medium and representing a process;

second data stored on the medium and representing a formula using a predetermined modal logic based on ambient calculus; and,

an analysis program executed by the processor from the medium to analyze the process against the formula in a recursive manner.

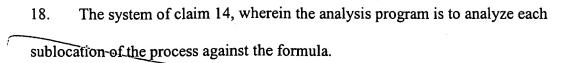
The system of claim 14, wherein the analysis program is to normalize the process 15. to determine whether the process comprises only a single element.

- The system of claim 14, wherein the analysis program is to partition the process 16. to determine whether each component of the process satisfies the formula.
 - 17. The system of claim 14, wherein the analysis program is to determine a plurality of names of the process, and verify that a name exists for the formula that is unequal to any of the plurality of names.

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19. The system of claim 14, wherein the analysis program is to analyze a spatial reach of the process against the formula.